E UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Kuo et al. Application Serial No.: 10/655,689

Filed: September 5, 2003

For: SBGA Design for Low-K Integrated Circuits (IC)

Patent No.: Unassigned Issue Date: Unassigned

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

## **CERTIFICATE UNDER 37 C.F.R. §3.73(b)** ESTABLISHING RIGHT OF ASSIGNEE TO TAKE ACTION

The assignee of the entire right, title and interest hereby seeks to take action in the 1. PTO in this matter.

#### **IDENTIFICATION OF ASSIGNEE**

The assignee of this matter is: 2.

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY

121 Park Ave 3 Science-Based Industrial Park Hsin-Chu, Taiwan R.O.C.

#### PERSON AUTHORIZED TO SIGN

Daniel R. McClure 3. Attorney for Assignee

- 4. A chain of title from the inventor(s) to the current assignee is shown below:
  - a. From: Yian-Liang Kuo, Yung-Sheng Huang, Yi-Ting Lin
    To: Taiwan Semiconductor Manufacturing Company
    Recorded in PTO: Reel: 014471 Frame: 0048

#### **DECLARATIONS**

| 5. | I, the undersigned, have reviewed all the documents in the chain of title of the |             |  |
|----|--|-------------|--|
|    | $\boxtimes$  | application |  |

matter identified above and, to the best of my knowledge and belief, title is in the assignee identified above.

- 6. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.
- 7. I, the person signing below, aver that I am empowered to sign this statement on behalf of the assignee.

Daniel R. McClure, Reg. No. 38,962

Tel. No. 770-933-9500 Customer No.: 24504

patent

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.

100 Galleria Parkway, Suite 1750 Atlanta, Georgia 30339-5948

Docket No. 252016-1810

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:
Application No.:
Filed:
Title:
Commissioner for patents
Washington, D.C. 20231

# POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST (REVOCATION OF PRIOR POWERS)

As assignee of record of each of the patent applications listed in the table of attachment A,

## REVOCATION OF PRIOR POWERS OF ATTORNEY

all powers of attorney previously given in each of the listed patent applications are hereby revoked, and

#### **NEW POWER OF ATTORNEY**

the following attorneys/agents are hereby appointed to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: I hereby appoint all attorneys of Thomas, Kayden, Horstemeyer & Risley, LLP, who are listed under the USPTO Customer Number shown below as the attorneys to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, recognizing that the specific attorneys listed under that Customer Number may be changed from time to time at the sole discretion of Thomas, Kayden, Horstemeyer & Risley, LLP, and request that all correspondence about the application be addressed to the address filed under the same USPTO Customer Number.

# 24504

Patent Trademark Office

Please direct all future correspondence and telephone calls to:

Daniel R. McClure, Reg. No. 38,962 THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.

100 Galleria Parkway, Suite 1750 Atlanta, Georgia 30339 770-933-9500

# ASSIGNEE OF ENTIRE INTEREST TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.

8, Li-Hsin Rd. 6 Hsinchu Science Park

Hsinchu, Taiwan 300-77, R.O.C.

| Date: | 9/9/04 | the Duchon                                |  |  |
|-------|--------|---|--|--|
|       |        | Chien-Wei (Chris) Chou                    |  |  |
|       |        | Director - Intellectual Property Division |  |  |

### ASSIGNEE CERTIFICATION

The certification under 37 C.F.R. §3.73(b) establishing the right of assignee to take action is attached hereto along with documentation evidencing same. Further, in my official position with Taiwan Semiconductor Manufacturing Company, Ltd., I am authorized to sign documents and otherwise act on its behalf in connection with the management and handling of patent applications and other intellectual property matters.

Date: 9/9/04\_\_\_\_\_

Chien-Wei (Chris) Chou

Director - Intellectual Property Division

# Attachment A

| No. | Serial No  | Application Title  | Filing<br>Date | Assignment (Reel/Frame)  |
|-----|------------|--|----------------|--|
| 1.  | 10/310,486 | A Method of Process Simplification and<br>Eliminating Topography Concerns for the<br>Creation of Advanced IT-RAM Devices | 12/05/02       | 013556/0586  |
| 2.  | 10/861,149 | A Novel Device Structure Having Enhanced<br>Surface Adhesion and Failure Mode<br>Analysis                                | 06/04/04       |  |
| 3.  | 10/861,148 | Self-Aligned Electrode to Eliminate Native Oxide Effect for Metal Insulator Semiconductor (MIS) Capacitor                | 06/04/04       |  |
| 4.  | 10/861,132 | Method and System for Merging Wafer Test<br>Results  | 06/04/04       |  |
| 5.  | 10/017,955 | Localized Slots for Stress Relieve in Copper   | 12/14/01       | 012386/0945  |
| 6.  | 10/845,887 | Localized Slots for Stress Relieve in Copper   | 05/14/04       | Recorded<br>012386/0945<br>at the parent<br>application<br>USP<br>10/017,955 |
| 7.  | 10/602,337 | Redundancy Structure in Self-Aligned Contact Process   | 06/24/03       | at the parent application USP 6,597,055                                      |
| 8.  | 10/655,689 | SBGA Design for Low-K Integrated Circuits (IC)   | 09/05/03       | 014471/0048  |
| 9.  | 10/462,314 | Shallow Trench Isolation Structure with<br>Low Sidewall Capacitance for High Speed<br>Integrated Circuits                | 06/13/03       | 014194/0150  |
| 10. | 10/655,662 | Method to Make Minimal Spacing Between Floating Gates in Split Gate Flash  | 09/05/03       | 014470/0854  |
| 11. | 10/042,074 | Grid Metal Design for Large Density CMOS<br>Image Sensor   | 01/08/02       | 012494/0258  |

| Date: 9/9/04 | Marile Phon                               |  |
|--------------|---|--|
| Date         | Chien-Wei (Chris) Chou                    |  |
|              | Director - Intellectual Property Division |  |

| 12. | 10/325,951 | Method for Forming High Purity Silicon Oxide Field Oxide Isolation Region   | 06/04/99 | 010021/0093   |
|-----|------------|---|----------|---|
| 13. | 10/462,267 | Gate Stack for High Performance Sub-<br>Micron CMOS Devices   | 06/16/03 | Recorded<br>012017/0126<br>at the parent<br>application<br>USP<br>6,596,599 |
| 14. | 10/323,983 | A Structure for Split Flash Memory Cells Containing a Programming Injector and a Method for Fabricating the Structure   | 12/19/02 | 013618/0294   |
| 15. | 10/189,910 | Stripe Board Dummy Metal for Reducing Coupling Capacitance  | 07/05/02 | 013086/0834   |
| 16. | 10/686,794 | Flash EEPROM with Function Bit by Bit Erasing   | 10/16/03 | Recorded<br>012482/0478<br>at the parent<br>application<br>USP<br>6,638,821 |
| 17. | 10/315,645 | Method for Forming a Planarized Bond Pad<br>Structure   | 12/10/02 | 013576/0082   |
| 18. | 10/178,384 | Structure and Fabricating Method to Make a Cell with Multi-Self-Alignment in Split Gate Flash   | 06/24/02 | 013058/0398   |
| 19. | 10/821,270 | Whole Chip ESD Protection   | 04/08/04 | Recorded<br>013155/0802<br>at the parent<br>application<br>USP<br>6,730,968 |
| 20. | 10/268,585 | New Structures of Vertical Resistors and FETs as Controlled by Electrical Field Penetration and a Band-Gap Voltage Reference Using Vertical FETs Operating in Accumulation Through the Field Penetration Effect | 10/10/02 | 013385/0110   |

|       | 2/1    | Marke Chou  |
|-------|--------|-------------|
| Date: | 4/9/04 | Mulled from |

Chien-Wei (Chris) Chou Director - Intellectual Property Division